5. Archagaricon conglomeratum.

Tubes large, uneven, cramped, and warty, irregularly enlarged and occasionally much constricted, anastomosing, and studded with cells of various sizes, sometimes so numerous that the tubes are much obscured, the whole mass appearing filled with them.

Several specimens have occurred of this well-marked species. The tubes are occasionally constricted to $\frac{1}{300}$ inch in diameter, and are sometimes enlarged to considerably more than twice that size. They are of an irregular form.

EXPLANATION OF PLATES IX. & X.

PLATE IX.

Fig. 1. Lenticular form of *Archagaricon.*
Fig. 2. Oval form.
Fig. 3. Irregular elongated form.
Fig. 4. Pedunculate form.
Fig. 5. Irregular form, with minutely reticulated surface.
Fig. 6. A portion of the surface, enlarged, to show the reticulations.
Fig. 7. Transverse section of lenticular form.

PLATE X.

Fig. 1. General view of a few of the tubes, much enlarged, of *Archagaricon bulbosum*: *a*, peripheral envelope or cuticle of the fungus; *b*, one of the large terminal vesicles; *c*, tubular enlargement.
Fig. 2. A portion of a tube of the same species, more highly magnified, with a terminal vesicle, showing the double marginal line.
Fig. 3. An enlarged portion of a tube, with bulbous swelling and papillose walls.
Fig. 4. The same, showing spore-like bodies within: *a*, spore-like bodies.
Fig. 5. Terminal extremities of three tubes without enlargements, showing double marginal line.

XXVI.—*Descriptions of a new Genus and two new Species of* Scyllaridæ *and a new Species of* Æthra *from North America.* By SIDNEY I. SMITH*.

EVIBACUS, gen. nov.

Carapax very broad; lateral border expanded, incision at the cervical suture closed, and the margin behind it not incised. Rostrum broader than long, very slightly bilobed. Eyes situated midway between the rostrum and the outer angle; the orbits entire, slightly removed from the anterior margin and connected with it only by a suture. Antennæ with the inner margins approximate.

* From Silliman's American Journal, July 1869.

This genus is most nearly allied to *Ibacus* and *Parribacus*, but is very distinct from both of them in the entire lateral margin of the carapax, the closing of the orbits in front, and the form of the rostrum.

Evibacus princeps, sp. nov.

Whole upper surface verrucose and nearly naked; five low, tuberculose elevations on the median line of the carapax, of which one is at the base of the rostrum, two on the gastric region, one on the anterior part of the cardiac, and one on the posterior margin; similar elevations on the middle of the second and third segments of the abdomen, and a very slight one on the fourth. Carapax strongly convex transversely; the anterior margin nearly straight, except at the lateral angle, where it is slightly curved forward; lateral margin strongly curved, with a broad notch at the cervical suture, behind which the margin is very slightly obtusely and irregularly toothed. Antennæ together as broad as the anterior part ot the carapax; the outer margins coarsely and irregularly serrate and their outline forming the segment of a circle. Everywhere beneath naked and nearly smooth. External maxillipeds with the outer margin of the merus divided into a number of slender processes. Legs so short that when bent forward in their natural position they are concealed beneath the expansions of the carapax; those of the first and second pairs with the superior angle of the merus raised into an obtuse crest; dactyli of all the legs short and stout, in the female those of the posterior pair closing against a process from the propodus. Abdomen with the lateral projections of the second, third, and fourth segments long and rather acutely pointed, those of the fourth shorter and triangular at tip; lamella of the terminal segment half as long as broad. Whole length of body 14 in.; length of carapax, including rostrum, 5·8; breadth of carapax 7·9.

A single female specimen of this remarkable species, the first of the Scyllaridæ discovered upon the west coast of America, was sent from La Paz, Lower California, by Capt. Jas. Pedersen.

Arctus americanus, sp. nov.

Carapax as broad as long, median crest high, covered with low squamiform tubercles, tridentate, the anterior tooth small and situated halfway between the front and the second tooth; lateral crests very high, anterior portion with two teeth above the eye and separated by a deep notch from the posterior portion, which is covered to the lateral margin with low squamiform tubercles; depression between the median and lateral

crests broad and deep, smooth or slightly punctate, with a median line of four depressed tubercles; lateral margin broken by a deep fissure at the cervical suture, and by a slight one a little more posteriorly. Antepenultimate segment of the antennæ as broad as long; anterior angle not prominent; outer margin arcuate, bidentate; anterior margin armed with several denticles; median carina prominent, but smooth and even; terminal segment short, the extremity almost truncate and rather deeply five-lobed, the lobes rounded; the inner margin bidentate. Exposed portions of the abdominal segments sculptured as if covered with rows of scales; fourth segment with a prominent median elevation above. Feet nearly naked; the merus segments slightly carinated above. Length 1·45 in.; length of carapax along the median line ·45, lateral margin ·50, breadth anteriorly ·49. Male and female do not differ.

Several specimens from Egmont Key, west coast of Florida, collected by Col. E. Jewett and William T. Coons. It is specially interesting as the representative of a genus hitherto known only from the Old World.

Æthra scutata, sp. nov.

Carapax transversely and regularly elliptical; margins thin, slightly dentate, the denticles separated by broad and very shallow sinuses; posterior margin nearly straight in the middle; anterior margin straight and parallel to the posterior margin for a short space outside the eyes; front projecting horizontally, its margin forming a semicircle; gastric region elevated, with a broad median depression extending to the front; anterior lobe of branchial region large and prominent; the broad space between the branchial region and the antero-lateral margin concave; summits of the elevations and a space along the posterior border tuberculous, rest of the upper surface smooth; inferior lateral regions slightly convex and smooth. Chelipeds fitting closely to the carapax; the angles projecting into dentate crests; outer and inferior surface of the hand coarsely granulous. Ambulatory legs short, the angles projecting into thin, dentate crests. Sternum and abdomen deeply vermiculated. Length of carapax 1·39 in., breadth 2·23.

A single male of this species, the first of the genus discovered in America, was sent with the *Evibacus* from La Paz by Capt. Pedersen. It is at once distinguished from *Æ. scruposa*, Edw., by the much broader and more regularly elliptical carapax.

The genus *Æthra* should evidently be placed near *Crypto-*

podia, as has been done by Stimpson. The gastric region is narrow and projects far forward as in the Maioids. The expansions on the sides of the carapax, which give it a Cancroid form, are thin, and contain none of the internal organs; and their removal would give the carapax very much the form of that of *Cryptopodia*.

XXVII.—*On some new Species of Graptolites.*

By Henry Alleyne Nicholson, M.D., D.Sc., M.A., F.G.S.*

[Plate XI.]

Having recently discovered a considerable number of new forms of Graptolites, I purpose in the following communication giving a short diagnosis of the more remarkable ones amongst them, reserving a more detailed description for another occasion. To the twenty-four species which I formerly described from the Skiddaw Slates (Quart. Journ. Geol. Soc. vol. xxiv. p. 125) I have now to add seven new species; and I have also detected *Diplograpsus bicornis*, Hall, and *Phyllograpsus Anna*, Hall, thus raising the total number of Graptolites from this formation to thirty-three. To the rich Graptolitic fauna of the mudstones of the Coniston series I have three new forms to add, making with those I have previously described a total of twenty-seven species (see Quart. Journ. Geol. Soc. vol. xxiv. p. 521). Finally, I have a few new species from the Upper Llandeilo rocks of Dumfriesshire.

Trigonograpsus, gen. nov. Pl. XI. fig. 6.

Gen. char. Frond simple, diprionidian, rapidly tapering towards the base, and having perfectly plain lateral margins without denticles. Cell-partitions alternating with one another, and springing from an undulating or zigzag solid axis. A common canal is probably present, in which case the axis must be excentric; but the evidence on this point is incomplete.

I have been compelled to found this genus for the reception of a single remarkable form which I have recently found in the Skiddaw Slates, and which differs considerably in structure from both *Retiolites* and *Diplograpsus*. As defined by Barrande, *Retiolites* is distinguished by the triangular shape of the frond on transverse section, by the absence of a solid axis, and by a characteristic punctation of the test. The only form to which these characters apply in their entirety is the

* Communicated by the Author, having been read before Section C of the British Association, at Exeter.